

Var. β . *Testá tenui, subepidermide stramineá, exalbida, anfractibus supernè lacteo marginatis, columellá et umbilico rufo-fuscis.*

Operculum tenue, rubrum, longitudinaliter creberrimè transversim radiatim valdè striatum.

Hab. "St. Nicolas, island of Zebu, Philippines; found under stones. This species is remarkable for the smallness of the operculum; the animal covers a part of the shell when at rest." H. Cuming.

Var. β . "Loon, isle of Bohol, Philippines; found under stones." H. Cuming.

GEOLOGICAL SOCIETY.

Nov. 1, 1843.—The following communications were read:—

1. "On the Fossil Remains of Star-fishes of the Order *Ophiuridæ*, found in Britain." By Prof. Edward Forbes.

After enumerating the several *Ophiuridæ* recorded as British fossils, the author described four new species, viz. 1. *Ophioderma tenuibrachiata*, and 2. *Ophiura Murravi*, discovered by Dr. Murray in the lias near Scarborough; 3. *Amphiura Pratti*, discovered by Mr. Pratt in the Oxford clay; and 4. *Ophiura cretacea*, communicated by Mr. Tennant, from the chalk. The animals of this order appear to have commenced their existence in the earliest periods of organic life, and to have continued to the present day without any great modifications of form, of family or generic value. They seem at present to be much more numerous than at any former period. None of the fossil species is identical with the existing.

2. "On the Geology of Malta and Gozo." By Lieut. Spratt, R.N., Assistant Surveyor H.M.S. Beacon.

The formations composing these islands are tertiary, and appear, from the author's researches, to belong to one geological epoch. They are all of marine origin, and very regularly deposited in parallel strata, but little inclined from the horizontal. They may be grouped under four divisions:—1. Coral limestone; 2. Yellow sandstone and blue clay; 3. Yellow and white calcareous sandy freestone; and 4. Yellowish white semi-crystalline limestone. Each of these groups is characterized by peculiar fossils, some of which are common to more than one. By a careful examination of the organic remains in each, the author was enabled to detect several extensive faults in both islands. These displacements amount generally to about half the present height of the islands above the sea, viz. about 300 feet, and the direction of the faults is transverse to the line of elevation, or the direction of the islands, that is, N.E. and S.W., the chain of islands running N.W. and S.E. Advantage of the irregularities of surface caused by these faults has been taken in constructing the military defences of the island. The author concludes with a detailed account of the several strata and their subdivisions, describing the distribution of the contained fossils, a collection of which accompanied the paper.

Nov. 15.—The following papers were read:—

1. "On some Fossil Remains of an Anoplotherium, and two species of Giraffe, from the tertiary strata of the Sewalik Hills in India." By Dr. Falconer and Capt. Cautley.

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The Anoplotherium is an undescribed species, differing from those of the Paris basin, and much larger, its size being between that of the horse and of the Sumatran rhinoceros. It is founded on two upper jaws, with the near molars perfect. It is a true Anoplotherium, as distinguished from the subgenera of *Xiphodon* and *Dichobune*. The discoverers have named it *Anoplotherium Sivalense*. The remains were dug out of a bed of clay in the tertiary strata of the Sewalik hills, mixed up with bones of Sivatherium, *Camelus Sivalensis*, Antelope, Crocodile, &c. The authors describe two species of giraffe. The first, which they designate *Camelopardalis Sivalensis*, is founded on the third cervical vertebræ of an old animal, and they infer it to have been one-third smaller than the existing species. The bone is very perfect, and completely silicified. It measures 8 inches, while the same vertebræ of the existing species is $11\frac{1}{2}$ to 12 inches. The bone is more slender in its proportions than the existing one, and exhibits a series of specific differences in addition to the size. The second species they name *Camelopardalis affinis*, provisionally, from its close resemblance to the existing Cape Giraffe, in form and size of teeth, &c. The species is founded on two fragments of the upper jaw, with the back molars, and a fragment of lower jaw containing the last molar. The dimensions agree to within the tenth of an inch with those of a female head in the Museum of the College of Surgeons. The giraffe bones were found along with those of Anoplotherium, Camel, *Crocodylus biporcatus*, &c., in a clay bed in the Sewalik hills*.

2. Prof. Sedgwick commenced the reading of a paper, in continuation of his former memoir, "On the Geology of North Wales," and described a section across the Berwyns.

ASHMOLEAN SOCIETY.

Oxford, June 3.—Prof. Twiss read a paper in illustration of a collection of specimens of the Ova and Fry of the Salmon, presented to the Ashmolean Museum by Mr. A. Young, the manager of the Duke of Sutherland's fisheries on the river Shin, in Sutherlandshire. The collection consists of thirteen specimens of the ova, selected at intervals varying from twenty to one hundred and thirty-three days from the time of their being deposited, and ten specimens of the young fry from the day on which they were hatched, the one hundred and thirty-fifth after impregnation, to the time when they assume the silvery character of the smolt and descend to the sea, which in this case was one year and nine days after exclusion from the egg. The experiments of Mr. Young, which have now been carried on through a period of three years with the greatest care, confirm the previous observations of Mr. Shaw, in the Nith river in Dumfriesshire, in their general bearings, with such slight variations as the different characters of the respective rivers may account for. Mr. Young has ascertained that the average period required for hatching the ova of the salmon of the Shin river varies from one hundred to one hun-

* The first announcement of the fossil remains of the Giraffe was made by Capt. Cautley in the Journal of the Asiatic Society of Bengal, vol. vii. p. 658 (15th July, 1838).